

PTO/SB/21 (09-04)

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Total Number of Pages in This Submission

Application Number	10/719,562
Filing Date	11/20/2003
First Named Inventor	Ledden
Art Unit	2859
Examiner Name	Louis M. Arana JUN 09 2005
Total Number of Pages in This Submission	5
Attorney Docket Number	NOVAM40531

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Firm Name	Altman & Martin		
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Printed name	Steven K. Martin		
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Attorney Docket: NOVAM40531

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Ledden

Application No.: 10/719,562

Group Art Unit: 2859

Filing Date: November 20, 2003

Examiner: Louis M. Arana

Title: Methods for Transmit Excitation in Magnetic Resonance Imaging
Using a Transmit Pulse with Time Varying Spatial Characteristics

Boston, Massachusetts

Date: June 9, 2005

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

RESPONSE

In response to the Office Action dated December 13, 2004.

Claims 1-11 stand rejected under 35 U.S.C. § 102(b).

Claims 1-11 remain in this application.

Argument

The § 102(b) Rejection

Claims 1-11 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Glover et al. The Examiner indicates that Glover discloses the use of a composite pulse for time reversal in MRI.

Glover discloses a traditional NMR system where sequences of transmit pulses generate RF transmit fields for spin excitation. The pulses can generate fields of differing amplitude and/or phase, but the spatial characteristics of the field do not change. In other words, if the phase or amplitude of the transmit field is changed, that change occurs uniformly over the entire transmit field. For example, if the amplitude and phase of two points in the transmit field are the same at a given time, they will always be the same.

Claims 1 and 10 of the present application require that the transmit system be capable of generating transmit fields with differing spatial characteristics. For example, if the amplitude and phase of two points in the transmit field are the same at a given time, they may be different at any other time.